



12AJ6

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TWIN DIODE—MEDIUM-MU TRIODE

7-PIN MINIATURE TYPE

For use in automobile radio receivers operating directly
from 12-volt storage batteries

GENERAL DATA**Electrical:**Heater[•], for Unipotential Cathode:

Voltage range. 10.0 to 15.9 dc volts

This voltage range is on an absolute basis. For longest life, it is recommended that the heater be operated within the voltage range of 11 to 14 volts.

Current (Approx.)

at 12.6 volts. 0.15 amp

Direct Interelectrode Capacitances (Approx.):^oTriode grid to triode plate. 2 $\mu\mu\text{f}$ Triode grid to cathode and heater. 2.2 $\mu\mu\text{f}$ Triode plate to cathode and heater. 0.8 $\mu\mu\text{f}$ Plate of diode unit No.1 to plate of diode unit No.2. 0.9 $\mu\mu\text{f}$ **Mechanical:**

Operating Position Any

Maximum Overall Length 2-1/8"

Maximum Seated Length. 1-7/8"

Length, Base Seat to Bulb Top (Excluding tip). 1-1/2" $\pm$ 3/32"

Maximum Diameter 3/4"

Dimensional Outline. See General Section

Bulb T5-1/2

Base Small-Button Miniature 7-Pin (JETEC No.E7-1)

Basing Designation for BOTTOM VIEW 7BT

Pin 1—Triode Grid

Pin 2—Cathode

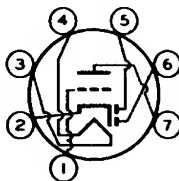
Pin 3—Heater

Pin 4—Heater

Pin 5—Plate of

Diode

Unit No.2



Pin 6—Plate of

Diode

Unit No.1

Pin 7—Triode Plate

TRIODE UNIT — AMPLIFIER — Class A₁**Maximum Ratings, Design-Center Values:**

PLATE VOLTAGE. 30 max. volts

CATHODE CURRENT. 20 max. ma

PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. 30 max. volts

Heater positive with respect to cathode. 30 max. volts

Characteristics with 12.6 Volts on Heater:

Plate Voltage. 12.6 volts

Grid Voltage 0 volts

Amplification Factor 55

^{•, o}: See next page.

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Plate Resistance (Approx.)	45000	ohms
Transconductance	1200	μmhos
Plate Current	750	μa

Typical Operation as Resistance-Coupled Amplifier with 12.6 Volts on Heater:

Plate-Supply Voltage	12.6	volts
Grid Voltage	0	volts
Plate Load Resistor	1	megohm
Grid Resistor	1	megohm
Grid Resistor of Following Stage	2	megohms
Input Capacitor	0.02	μf
Output Capacitor	0.01	μf
Voltage Gain at 400 cps with RMS output volts = 1.	16	

Maximum Circuit Values:

Grid-Circuit Resistance	10 max.	megohms
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DIODE UNITS — Two

Maximum Ratings, Design-Center Values:

Values are for Each Unit

PLATE CURRENT	1 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	30 max.	volts
Heater positive with respect to cathode.	30 max.	volts

Characteristics with 12.6 Volts on Heater:

Plate Current for plate volts = 10	2	ma
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- operation of heater in series with other heaters is not recommended.
- without external shield.

OPERATING CONSIDERATIONS

The *maximum ratings* in the tabulated data for the 12AJ6 are working design-center maximums established according to the standard design-center system of rating electron tubes. Tubes so rated will give satisfactory performance in storage-battery-operated equipment provided the following stipulations are observed:

In the case of storage-battery-with-charger supply or similar supplies, the normal battery-voltage fluctuation may be as much as 35 per cent or more. This fluctuation imposes severe operating conditions on tubes. Under these conditions, the equipment should be designed so that 90 per cent of the design-center maximum value of plate voltage is never exceeded for a battery-terminal potential of 13.2 volts. Although the operating voltages of the 12AJ6 in this service will, at times, exceed the design-center maximum values, satisfactory performance with probable sacrifice in life will be obtained.